

20070125.ba v04_n000.bam.20070125

>From ???@??? Wed Jan 24 20:59:15 2007 -0600
Date: Thu, 25 Jan 2007 02:58:16 GMT
From: Old Tube Radios <boatanchors@theporch.com>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: BOATANCHORS digest 4000
Message-Id: <20070125025819.3057A3183D2@srvr1.theporch.com>

BOATANCHORS Digest 4000

Topics covered in this issue include:

- 1) Homebrew transmitter
by spr@earthlink.net
- 2) SB-401 question & hamfest advisory
by Mike Steussy <ae4r@cox.net>
- 3) Where did that tube come from?
by "Herbert M. Rosenthal" <herbrose@comcast.net>
- 4) Signal Corps audio amp query
by Richard Post <postr@ohiou.edu>
- 5) Radio stuff for sale - California
by "Nick England" <nick@3rdtech.com>
- 6) Re: Signal Corps audio amp query
by W7QH0@aol.com
- 7) Re: Signal Corps audio amp query
by Richard Post <postr@ohiou.edu>
- 8) Re: Signal Corps audio amp query
by "ChasW3KC" <w3kc@verizon.net>
- 9) Meters Needed
by "Greg Carter" <kx4r@earthlink.net>
- 10) Re: Signal Corps audio amp query
by Richard Post <postr@ohiou.edu>
- 11) Re: Meters Needed
by Al Klase <al@ar88.net>
- 12) Re: Dumont and Tektronix
by Henry van Cleef <vancleef@eskimo.com>
- 13) RE: Dumont and Tektronix
by "Richard W. Solomon" <w1ks@earthlink.net>
- 14) Re: Dumont and Tektronix
by "Morris Odell" <vilgotch@bigpond.net.au>
- 15) Re: Signal Corps audio amp query
by "Arden Allen" <gumbear@pacbell.net>
- 16) Re: Dumont and Tektronix
by "Arden Allen" <gumbear@pacbell.net>
- 17) Re: Dumont and Tektronix
by Steve Berg <wa9jml@tbc.net>

Message-ID: <20642521.1169603102643.JavaMail.root@elwamui-mouette.atl.sa.earthlink.net>
Date: Tue, 23 Jan 2007 20:45:02 -0500 (EST)
From: spr@earthlink.net
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Homebrew transmitter
Mime-Version: 1.0
Content-Type: text/plain; charset=UTF-8
Content-Transfer-Encoding: 7bit

(I think) FS in the usual place, but poorly described. Seems it ought to go to a good home, looks nicely built. Try 330079619658.

Yours for preservation of good stuff,

Scott

Message-ID: <45B6E351.1020204@cox.net>
Date: Tue, 23 Jan 2007 23:40:49 -0500
From: Mike Steussy <ae4r@cox.net>
MIME-Version: 1.0
To: Old Tube Radios <boatanchors@theporch.com>
Subject: SB-401 question & hamfest advisory
Content-Type: text/plain; charset=ISO-8859-1; format=flowed
Content-Transfer-Encoding: 7bit

Ahoy! I have a very nice Heathkit SB-401 that I've been working on for a while with full crystal set borrowed from an SB-300. Short version is it exhibits low drive and thus very low output. If anyone on the list has had this experience or other advice about the SB-401, please contact me directly. I've already put many more hours into working on it than I'll likely ever use it on the air (has this ever happened to anyone else?), but it's a very nice transmitter and I'd like to complete the repair.

For those in the USA Mid-Atlantic area, don't miss the Vienna Winterfest on Sunday, Feb 25, at the Northern Virginia Community College Annandale Campus, one mile off the National Capitol Beltway (I-495). This hamfest has always been a good one for vintage amateur gear. I own several nice BAs that I bought at Winterfest. Details on this hamfest are at www.viennawireless.org/winterfest.php.

73, Mike Steussy AE4R

Message-ID: <45B77DC6.30803@comcast.net>
Date: Wed, 24 Jan 2007 08:39:50 -0700
From: "Herbert M. Rosenthal" <herbrose@comcast.net>
MIME-Version: 1.0
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Where did that tube come from?
Content-Type: text/plain; charset=ISO-8859-1; format=flowed
Content-Transfer-Encoding: 7bit

I just completed correspondence with a BAer, and he reminded me of a 6E5 I sent him a few years ago for his tube checker.

This got me to wondering: where did I get that tube, how long did I have it, when was it made, and how many hands had it passed through? I actually have no idea.

Years back I mounted some TX tubes on a board with a filament transformer and wirewound resistors so each filament gets its correct voltage. When I light it, it makes a nice showpiece! There is a 304TL, an 802, an 813 (always thought this was the neatest looking tube, ever), and an 805. The 4 sections lit within the 304TL also look quite impressive.

I've had the tubes for perhaps 20 years and the filaments all light as they did when NIB... But I have no idea how they wended their way to me. I probably found a few in a box under a table at a flea market, or found one at an estate sale, completely away from other components... or bought or swapped for one with a fellow ham...

You may be thinking, "who cares?" You're right! Some BAers have literally thousands of tubes-many are pulls from old GI gear, and it would be impossible to know the ancestry of each and every tube you own.

But if you have an oldie, a very favorite, and can remember how you came by it, and when, it might be interesting reading... perhaps it is a 1625 from your first Command Set in 1950, or the 813 from an ART 13 you bought when you were 14 years old... what is the smallest and largest tubes you have (remember the Raytheon CK series with wire leads, or some 50 kw biggie with handles and plumbing for water cooling)?

Some of the more modern ones... 833s, were routine pulls at BC stations... and came into ham use as surplus-or 'gifts' from the Chief Engineer... or just 'fell off the truck.'

If you care to, tell me, directly, your tube story of your pet tube; I'll collect them, and make a compilation available to all.. off line, please, so we don't clog things up. Make your Subject: Tubes so I can sort them fro other mail, please.

Remember the WE 316A doorknobs from the BC645? I had some pulls from the GE junkyard in Syracuse about 1947... Etc. But there I go...

Herb W5AN
herbrose@comcast.net

Mime-Version: 1.0
Message-Id: <p05210600c1dd3ba029f3@[192.168.2.3]>
Date: Wed, 24 Jan 2007 11:43:36 -0500
To: Old Tube Radios <boatanchors@theporch.com>
From: Richard Post <postr@ohiou.edu>
Subject: Signal Corps audio amp query
Content-Type: text/plain; charset="us-ascii" ; format="flowed"

Latest on my bench is a Sig Corps AM-1249/U audio amp. Is rack mount push/pull 6V6 ultralinear. Anyone know how it was originally used? No info found on the web.

Pictures at:

<http://oak.cats.ohiou.edu/~postr/bapix/SC_Amp.htm>

or top link at

<http://tinyurl.com/537ds>

73,
Rich KB8TAD

Date: Wed, 24 Jan 2007 11:46:24 -0500
From: "Nick England" <nick@3rdtech.com>
Subject: Radio stuff for sale - California
To: Old Tube Radios <boatanchors@theporch.com>
Message-id: <01c401c73fd7\$2fb925d0\$2f0212ac@Heathkit2>
MIME-version: 1.0
Content-type: text/plain; charset=us-ascii
Content-transfer-encoding: 7bit

Someone wants to sell "lots of radio stuff" - Sacramento area maybe judging by the area code.

I have no knowledge or connection, contact JE2130@aol.com - he said OK to pass along his phone number to people who might be interested.

I am just passing along a message that came to me because I maintain the Boatanchors FAQ site at <http://www.virhistory.com/ham/rrab.faq.htm>

73 & Have Fun,
Nick KD4CPL

From: JE2130@aol.com [mailto:JE2130@aol.com]
Sent: Monday, January 22, 2007 11:58 AM
To: nick@3rdtech.com
Subject: (no subject)

hi
i have lots of radio stuff some heath kit. i would like to sell all of this

phone 209 239-5109
Jim

From: W7QH0@aol.com
Message-ID: <c20.db834ab.32e8ecfe@aol.com>
Date: Wed, 24 Jan 2007 12:10:22 EST
Subject: Re: Signal Corps audio amp query
To: Old Tube Radios <boatanchors@theporch.com>
MIME-Version: 1.0
Content-Type: multipart/alternative;
boundary="part1_c20.db834ab.32e8ecfe_boundary"

--part1_c20.db834ab.32e8ecfe_boundary
Content-Type: text/plain; charset="ISO-8859-1"
Content-Transfer-Encoding: quoted-printable

In a message dated 1/24/07 8:44:00 AM, postr@ohiou.edu writes:

> Latest on my bench is a Sig Corps AM-1249/U audio amp. Is rack mount
> push/pull 6V6 ultralinear.=A0 Anyone know how it was originally used?
> No info found on the web.
>=20
> Pictures at:
>=20
> <http://oak.cats.ohiou.edu/~postr/bapix/SC_Amp.htm>
>=20

The pictures would seem to answer the question.....

Dennis D. W7QH0
Glendale, CA

--part1_c20.db834ab.32e8ecfe_boundary
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

```
* * * * *
*      ---REMAINDER OF MESSAGE TRUNCATED---      *
*      This post contains a forbidden message format      *
*      (such as an attached file, a v-card, HTML formatting) *
*      Mail Lists at theporch.com only accept PLAIN TEXT      *
*      If your postings display this message your mail program *
*      is not set to send PLAIN TEXT ONLY and needs adjusting *
* * * * *
```

--part1_c20.db834ab.32e8ecfe_boundary--

Mime-Version: 1.0
Message-Id: <p05210602c1dd4ab4b595@[192.168.2.3]>
Date: Wed, 24 Jan 2007 12:47:59 -0500
To: Old Tube Radios <boatanchors@theporch.com>
From: Richard Post <postr@ohiou.edu>
Subject: Re: Signal Corps audio amp query
Cc: boatanchors@theporch.com
Content-Type: text/plain; charset="us-ascii" ; format="flowed"

Hi Dennis,

The pic of the amp on top of my R-390 is simply my thought on how it could be used at present and as an illustration of the amp's rack height. I have no evidence that the two were ever used in tandem by the military in that fashion. But if you have such evidence even if anecdotal, please let me know.

73,
Rich

At 12:10 PM -0500 1/24/07, W7QH0@aol.com wrote:

>In a message dated 1/24/07 8:44:00 AM, postr@ohiou.edu writes:
>

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>>
>
>
>The pictures would seem to answer the question.....
>
>Dennis D. W7QHO
>Glendale, CA

Date: Wed, 24 Jan 2007 13:08:29 -0500
From: "ChasW3KC" <w3kc@verizon.net>
Subject: Re: Signal Corps audio amp query
To: Old Tube Radios <boatanchors@theporch.com>
Message-id: <008401c73fe2\$a72afe80\$2f01a8c0@chas>
MIME-version: 1.0
Content-type: text/plain; format=flowed; charset=iso-8859-1; reply-type=response
Content-transfer-encoding: 7bit

I wonder what the specs are. "Ultralinear" is one of the terms often applied to higher-end consumer audio gear (Williamson amps etc.).
73 Chas W3KC

Richard asked:
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> rack mount push/pull 6V6 ultralinear. Anyone know how it
> was originally used?

Message-ID: <003f01c73fe7\$1cd588e0\$0100a8c0@kx4r2>
From: "Greg Carter" <kx4r@earthlink.net>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Meters Needed
Date: Wed, 24 Jan 2007 13:40:22 -0500
MIME-Version: 1.0
Content-Type: text/plain;
charset="Windows-1252"
Content-Transfer-Encoding: 7bit

Hi Gang,
I am in need of a couple of meters for restoration projects here.

1. meter for a Johnson Adventurer transmitter (iron vane type)
2. S-meter for the Hallicrafters SX-25 Super Defiant receiver.

Any help or leads will be greatly appreciated !

Tnx and 73 ,
Greg KX4R

Mime-Version: 1.0
Message-Id: <p05210604c1dd62de6463@[192.168.2.3]>
Date: Wed, 24 Jan 2007 14:48:59 -0500
To: Old Tube Radios <boatanchors@theporch.com>
From: Richard Post <postr@ohiou.edu>
Subject: Re: Signal Corps audio amp query
Cc: "Old Tube Radios" <boatanchors@theporch.com>
Content-Type: text/plain; charset="us-ascii" ; format="flowed"

Hi Chas,

This list is unique among boatanchor lists in that it has a number of EE cognoscenti who will correct any misconceptions I may have.

In this case, "ultralinear" refers to the output transformer screen taps at what is probably about 43% or so.

As I understand it, ultralinear was a term used in audio engineering articles of the 50's in referring to Blumlein's 1937 patent number 496,883 "Improvements in or relating to Thermionic Valve Amplifying Circuits". Blumlein tested the use of screen taps on output transformers to try to combine the best of both triodes (reduced distortion) and pentodes (increased power). And yes, nearly all the high end consumer push/pull tetrode and pentode tube amps of the 50's use the Blumlein circuit, as identified by the output transformer taps.

73,
Rich

At 1:08 PM -0500 1/24/07, ChasW3KC wrote:
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>often applied to higher-end consumer audio gear (Williamson amps
>etc.).
>73 Chas W3KC
>
>Richard asked:
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>>mount push/pull 6V6 ultralinear. Anyone know how it was originally
>>used?

Message-ID: <45B7D644.8090303@ar88.net>

Date: Wed, 24 Jan 2007 16:57:24 -0500
From: Al Klase <al@ar88.net>
MIME-Version: 1.0
To: Old Tube Radios <boatanchors@theporch.com>
CC: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: Meters Needed
Content-Type: text/plain; charset=windows-1252; format=flowed
Content-Transfer-Encoding: 7bit

Hi Greg,

The Hallicrafters meter may be difficult to find. The problem is compounded by the fact that it reads backwards, zero current is to the right. If its simply a matter of the brass case being split, (hydrogen embrittlement?) put an automotive hose clamp around it. I've done this a couple of times with SX-24's and SX-25's. The other alternative is to mount a normal meter upside-down (yuck).

Good luck,
Al

Greg Carter wrote:

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> 2. S-meter for the Hallicrafters SX-25 Super Defiant receiver.
>
>
--

Al Klase - N3FRQ
Flemington, NJ
<http://www.skywaves.ar88.net/>

From: Henry van Cleef <vancleef@eskimo.com>
Message-Id: <200701250118.RAA22350@eskimo.com>
Subject: Re: Dumont and Tektronix
To: Old Tube Radios <boatanchors@theporch.com>
Date: Wed, 24 Jan 2007 18:18:45 -0700 (MST)
Cc: boatanchors@theporch.com (Old Tube Radios)
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

The esteemed Ben Hall has said:

>
> Question for the group. Was it DuMont who was producing O'scopes to the

> military that infringed on Tek's design/patent?
>
> Or was it another company, Jetronix seems to come to mind, that was
> doing this?
>
> Or was it both?
>
> At one point, I had one of those Tek-designed, someone-else-built scopes
> (believe it was a Jetronix), as well as a Tek 543 (which I still have).
> It was clear that the non-Tek scope was inferior in components and
> quality of manufacture. It didn't work and I didn't have the
> time/desire to fix it. So, it was disassembled for the parts that were
> okay - pots, transformer, etc... I'm *still* using pots from that scope
> - while not Tek, they were Clarostat which are pretty good.
>
You're thinking of Hickock, Lavoie, and Jetronic. Tektronix sued for
patent infringement and won, but far too late to do them much good.
The Tek lookalikes (very hard to tell from a 545 at first) weren't
very reliable, while the Tek originals still soldier on 40-50 years
later. You can visit Stan Griffiths' site,
<http://www.reprise.com/ash/clients2/home.asp>
to get more of a rundown on Tek history.

In the US, Dumont started building commercial oscilloscopes in the
1930's, and RCA built very similar scopes in the 1940's. Actually,
the RCA scopes were built by Millen. Both manufacturers followed a
basic design: a simple voltage amplifier for the vertical, and a
thyatron-based free-running oscillator for sweep. AT&T also built
some similar small scopes in the 1930's.

Dumont's real forte was CRT design and manufacture. RCA became #2
around 1939, but never were quite as good. Dumont dominated the lab
scope market until the mid 1950's, then suddenly vanished when
Tektronix took over that dominance. Actually, Dumont did continue to
build scopes until about 1963, when they sold their manufacturing
operation to Fairchild Semiconductor. Fairchild sponsored design and
manufacture of an almost-all semiconductor modern scope---the 766,
which was very competitive side-by-side against the Tek 547, but was a
very hard sell in the market. Last I heard (I knew some of the
Dumont/Fairchild team) Fairchild spun them off, and they were trying
to make it on their own ca. 1972, but I think that's about where they
vanish.

Where Tektronix came from: Howard Vollum and Jack Murdock were high
school classmates. Howard went on to Reed College and ultimately took
a Ph.D. in physics. Jack went on from high school to start a radio
sales and repair shop. During WWII, Howard was involved with the
Harvard side of the "Radiation Laboratories" (the MIT side is

better-known, but Harvard did some very significant work). The Rad Labs investigated improvements in CRT displays---the "RF Envelope Detector" and later, the P4 Synchroscope. Millen built both; the P4 and later P4E (with a small vertical amplifier that used shunt peaking to get some bandwidth) was a fairly common instrument during WWII and for some years after (Millen had them as catalog items into the 1950's). Millen offered several oscilloscope products as catalog items under their own name as well.

After the war, Howard went back to Oregon and teamed up with Jack, using Jack's shop to build an improved commercial derivative of the P4. This was the original Tek 511. It wasn't too far from a P4, with a clamp-tube sweep, and an improved vertical amplifier. The first ones were built on Jones barrier strips (the screw-down strips) on aluminum bend-up chassis, shoved into a Zero Mfg. can. Tek bought back the first one sold while I worked for them, and I recall there being quite a restoration effort to identify its original configuration and return it to that. Don't know where it is now (Stan's site will probably tell you). Tek built the 511/511A for several years, and a few others that didn't find much of a market, but hit the magic formula with the 514---clamp tube sweep and single-ended distributed vertical amplifier.

The follow-on 531 plug-in scope (1953) hit the market like gangbusters and Sunday-punched the Dumonts. Similar to the quantum leap represented by the Boeing 707/Douglas DC-8 jet airliners, which put the Constellation and Douglas DC-6/7 out to pasture. The follow-on dual-sweep 535, and the entrance, in 1955 of the 541 and 545 (30 Mhz. bandwidth instead of 10) pretty well clinched things. The 547 was a hybrid (mixed semiconductors and tubes) from 1963 extending bandwidth to 50 Mhz, and including sweep switching. The sweep circuit introduced in the 531 was a "Miller Integrator," much more familiar to moderns as an operational amplifier with capacitive feedback, but built as a vacuum tube circuit. As I recall, relaxation oscillator, clamp tube, and "Miller" sweep circuits are all covered in detail in Millman and Taub "Pulse and Digital Circuits" (McGraw Hill 1956).

That is a very quick rundown.

--

Hank van Cleef (vancleef@eskimo.com, hvanclee@nyx.net)
1986 420SEL "A stranger in paradise" (Fremont Co. Wyoming)
1986 GMC 1500 6.2 diesel pickup "Seen one, seen them all"

From: "Richard W. Solomon" <w1ksz@earthlink.net>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: RE: Dumont and Tektronix
Date: Wed, 24 Jan 2007 20:26:32 -0500

Message-ID: <IBEAICMPAKMPCMJKFBLBMELIGHAA.w1ksz@earthlink.net>
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Actually, I believe that Dumont's demise was due more to a major management decision that pitted them in a life or death struggle with Tektronix.

Dumont believed that the future of scopes lay in high sensitivity and low bandwidth.

Tektronix believed that the high frequency path was the true way.

History has shown who was correct.

73, Dick, W1KSZ

-----Original Message-----

From: owner-boatanchors@theporch.com
[mailto:owner-boatanchors@theporch.com] On Behalf Of Henry van Cleef
Sent: Wednesday, January 24, 2007 8:19 PM
To: Old Tube Radios
Cc: Old Tube Radios
Subject: Re: Dumont and Tektronix

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>
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Hank van Cleef (vancleef@eskimo.com, hvanclee@nyx.net)
1986 420SEL "A stranger in paradise" (Fremont Co. Wyoming)
1986 GMC 1500 6.2 diesel pickup "Seen one, seen them all"

Message-ID: <001501c74025\$98f9e4f0\$ad00a8c0@Morris1>
From: "Morris Odell" <vilgotch@bigpond.net.au>
To: Old Tube Radios <boatanchors@theporch.com>
Cc: "Old Tube Radios" <boatanchors@theporch.com>
Subject: Re: Dumont and Tektronix
Date: Thu, 25 Jan 2007 13:07:42 +1100
MIME-Version: 1.0
Content-Type: text/plain;
 format=flowed;
 charset="iso-8859-1";
 reply-type=original
Content-Transfer-Encoding: 7bit

----- Original Message -----
From: "Henry van Cleef" <vancleef@eskimo.com>

Subject: Re: Dumont and Tektronix

<snip>

A great filleted description of Tek history. I believe it's also true that Tek started out buying CRTs from RCA and Dumont. They went into CRT manufacturing when it became evident that their suppliers were supplying them imperfect tubes and keeping the best quality ones for their own products.

Morris

Message-ID: <003b01c7402a\$591ceb20\$f8e47443@KB6NAX>
From: "Arden Allen" <gumbear@pacbell.net>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: Signal Corps audio amp query
Date: Wed, 24 Jan 2007 18:26:47 -0800
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

> As I understand it, ultralinear was a term used in audio engineering
> articles of the 50's in referring to Blumlein's 1937 patent number
> 496,883 "Improvements in or relating to Thermionic Valve Amplifying
> Circuits". Blumlein tested the use of screen taps on output
> transformers to try to combine the best of both triodes (reduced
> distortion) and pentodes (increased power). And yes, nearly all the
> high end consumer push/pull tetrode and pentode tube amps of the 50's
> use the Blumlein circuit, as identified by the output transformer
> taps.

Yup, that's right, Rich. It's a laughable invention, though. Pentodes aren't all that non-linear compared to triodes when operated properly. You'd think tube designers knew nothing about distortion to have replaced triodes in practically every application needing the power sensitivity a triode can't provide. Side by side with triodes power pentodes have the advantage of needing less distortion adding gain that triodes need to be driven to full power. And then the much reviled by today's audiphooles negative feedback knocks all bets into a cocked hat. Lots of hooley in the audio world.

Arden Allen
KB6NAX

Message-ID: <005601c7402b\$265ed8f0\$f8e47443@KB6NAX>
From: "Arden Allen" <gumbear@pacbell.net>
To: Old Tube Radios <boatanchors@theporch.com>
Cc: "Old Tube Radios" <boatanchors@theporch.com>

Subject: Re: Dumont and Tektronix
Date: Wed, 24 Jan 2007 18:47:14 -0800
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

>They went into CRT
> manufacturing when it became evident that their suppliers were supplying
> them imperfect tubes and keeping the best quality ones for their own
> products.

I call that the "cream puff principle." Some call it cherry picking.
Whatever, more damn engineers have been sucked into specifying garbage
because they didn't stop to think how competition really works! ;-)

Arden Allen
KB6NAX

Message-ID: <45B81CA3.4040609@tbc.net>
Date: Wed, 24 Jan 2007 20:57:39 -0600
From: Steve Berg <wa9jml@tbc.net>
MIME-Version: 1.0
To: Old Tube Radios <boatanchors@theporch.com>
CC: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: Dumont and Tektronix
Content-Type: text/plain; charset=ISO-8859-1; format=flowed
Content-Transfer-Encoding: 7bit

Another fun practice is to provide product samples that are better than
can be achieved in a typical production run. When Motorola was
designing an updated UHF Motrac radio, they got some twin tetrodes from
Amperex on a sample basis and used them to set the design and
specifications for the unit. Then, when run of the mill tubes were
supplied, it was almost impossible to make the published specs with
them. But, in typical Motrac fashion, you could not kill the radios. I
used to go over to a local road contractor and bring back a whole van
load of UHF Motracs to the shop every year for a checkup. Now and then
I would have to replace a final tube or do a bit of alignment, but they
just kept working. Most of them never made rated power, but stood up to
incredible abuse.

Steve WA9JML

Arden Allen wrote:

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>

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>

> Arden Allen

> KB6NAX

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